

Dr. Sutara (Ata) Suanda

CONTACT INFORMATION	Department of Physics and Physical Oceanography University of North Carolina Wilmington	+01 910-962-2758 suandas@uncw.edu
EDUCATION	Oregon State University , Corvallis, OR Ph.D., Oceanography, Feb. 2014 <ul style="list-style-type: none">• Thesis: <i>Tidal-band and high-frequency internal variability on the Central Oregon inner shelf</i>• Advisor: Dr. John A. Barth M.S., Oceanography, Dec. 2009 <ul style="list-style-type: none">• Thesis: <i>Diurnal wind-driven processes on the northern Monterey Bay inner shelf</i>• Advisor: Dr. John A. Barth Wesleyan University , Middletown, CT B.A., Physics, 2003	
PROFESSIONAL EXPERIENCE	Assistant Professor Department of Physics and Physical Oceanography, University of North Carolina, Wilmington, NC Adjunct Lecturer Department of Marine Science, University of Otago, NZ Physical Oceanographer New Zealand MetService, Raglan, NZ Lecturer Department of Marine Science, University of Otago, NZ Postdoctoral Research Scripps Institution of Oceanography, University of California, San Diego Scientific Advisor: Falk Feddersen, Ph.D	January 2021 - present January 2021 - present January 2020 to November 2020 May 2018 to November 2020 March 2014 to May 2018
REFEREED JOURNAL PUBLICATIONS	<ol style="list-style-type: none">1. Montaña, M. M., Suanda, S.H., DeSouza, J., (2023) Modelled coastal circulation and Lagrangian statistics from a large coastal embayment: The case of Bay of Plenty, Aotearoa New Zealand. <i>Estuarine, Coastal and Shelf Science</i> 281, 10.1016/j.ecss.2023.1082122. DeSouza, J., Suanda, S.H., Couto, P. P., Smith, R. O., Kerry, C., Roughan, M. (2023) Moana Ocean Hindcast - a 25+ years simulation for New Zealand Waters using the ROMS v3.9 model. <i>Geoscientific Model Development</i> 16, 1, https://doi.org/10.5194/gmd-16-211-20233. Moulton, M., Suanda, S.H., Garwood, J. C., Kumar, N., Fewings, M. R., Pringle, J. (2022) Exchange of plankton, pollutants, and particles across the nearshore region <i>Annual Reviews of Marine Science</i> 15. https://doi.org/10.1146/annurev-marine-032122-115057	

4. Spydell, M. S., **Suanda, S. H.**, Grimes, D. J., Becherer J., Mcsweeney, J. M., Chickadel, C., Moulton, M., et al. (2021) Internal Bore Evolution across the Shelf near Pt. Sal, California, Interpreted as a Gravity Current. *Journal of Physical Oceanography* 51, no. 12, 3629–50. <https://doi.org/10.1175/JPO-D-21-0095.1>.
5. Santana, R. , **Suanda, S.H.**, Macdonald, H., O’Callaghan, J. (2021) Mesoscale and wind-driven intra-annual variability in the East Auckland current *Scientific Reports*, doi.org/10.1038/s41598-021-89222-3
6. Kumar,N., Lerczak, J., Xu, T., Waterhouse, A. F., Thomson, T., Terrill, E.J., Swann, C., **Suanda, S.H.**, et al., (2020) The Inner Shelf Dynamics Experiment *Bulletin of the American Meteorological Society*,doi:10.1175/BAMS-D-19-0281.1
7. O’Connell-Milne, S., Wing, S. R., **Suanda, S.H.**, Udy, J. A., Durante, L. M., Salmond, N. H., Wing, L. C. (2020). Interactions between bivalve filter feeding and oceanographic forcing drive the fluxes of organic matter and nutrients at an estuarine–coastal interface *Marine Ecology Progress Series*, doi:10.3354/meps13522.
8. Gough, M. K., Freismuth, T., MacMahan J., Colosi, J., **Suanda, S.H.**, Kumar, N. (2020) Heating of the midshelf and inner shelf by warm internal tidal bores *Journal of Physical Oceanography*, doi:10.1175/JPO-D-19-0143.1.
9. Kumar, N., **Suanda, S.H.**, Colosi, J. A., Cai, D., Haas, K. A., Di Lorenzo, E., Miller, A. J., Edwards, C. A. (2019) Coastal Semidiurnal Internal Tidal Incoherence in the Santa Maria Basin, California: Observations and Model Simulations *Journal of Geophysical Research: Oceans* 124, no. 7, 5158-79 doi:10.1029/2018JC014891
10. O’Callaghan, J., Stevens C., Roughan M., et al. inc **Suanda, S.H.** (2019) Developing an Integrated Ocean Observing System for New Zealand. *Frontiers in Marine Science* 6. doi:10.3389/fmars.2019.00143.
11. Spydell, M. S., Feddersen F., **Suanda, S.H.**, (2019) Inhomogeneous Turbulent Dispersion across the Nearshore Induced by Surfzone Eddies. *Journal of Physical Oceanography*, doi.org/10.1175/JPO-D-18-0102.1.
12. **Suanda, S.H.**, Feddersen, F., Spydell, M. S., Kumar, N., (2018) The Effect of Barotropic and Baroclinic Tides on Three-Dimensional Coastal Dispersion *Geophysical Research Letters* 45, no. 20, 11,235-11,246. doi:10.1029/2018GL079884.
13. **Suanda, S.H.**, Kumar, N., Feddersen, F. (2017) The effect of barotropic and baroclinic tides on coastal stratification and mixing. *Journal of Geophysical Research*, doi:10.1002/2017JC013379
14. Colosi, J., Kumar, N., **Suanda, S.H.**, Freismuth, T., MacMahan J. (2017) Statistics of Internal Tide Bores and Internal Solitary Waves Observed on the Inner Continental Shelf off Point Sal, CA *Journal of Physical Oceanography*, doi:10.1175/JPO-D-17-0045.1
15. **Suanda, S.H.**, Kumar, N., Miller, A.J., DiLorenzo, E., Haas, K., Cai, D., Edwards, C.A., Washburn, L., Fewings, M., Torres, R., Feddersen, F. (2016) Wind relaxation and a coastal buoyant plume north of Pt. Conception, CA: observations, simulations, and scalings. *Journal of Geophysical Research*, doi:10.1002/2016JC011919.
16. **Suanda, S.H.**, Perez, S., Feddersen, F. (2016) Evaluation of a source-function wavemaker for generating random directionally spread waves in the sea-swell band. *Coastal Engineering*, doi: 10.1016/j.coastaleng.2016.04.006.

17. Kumar, N., Feddersen, F., **Suanda, S.H.**, Uchiyama, Y., McWilliams, J., O'Reilly, W. (2016) Mid- to inner-shelf coupled ROMS-SWAN model-data comparison of currents and temperature: Diurnal and semi-diurnal variability. *Journal of Physical Oceanography*, doi: 10.1175/JPO-D-15-0103.1
18. **Suanda, S.H.**, Barth, J.A. (2015) Semidiurnal baroclinic tides on the Central Oregon inner shelf. *Journal of Physical Oceanography*, doi: 10.1175/JPO-D-14-0198.1.
19. **Suanda, S.H.**, and Feddersen, F. (2015) A self-similar scaling for cross-shelf exchange driven by transient rip currents. *Geophysical Research Letters*, 42(13), doi: 10.1002/2015GL063944.
20. **Suanda, S.H.**, Barth, J.A., Holman, R.A. and Stanley, J. (2014) Shore-based video observations of nonlinear internal waves across the inner shelf, *Journal of Oceanic and Atmospheric Technology*, 31, 714-728.
21. **Suanda, S.H.**, Barth, J.A., and Woodson, C.B. (2011). Diurnal heat balance for the northern Monterey Bay inner shelf, *Journal of Geophysical Research*, 116(C9).
22. Tlusty, M.F., Metzler A., Huckabone S., **Suanda, S.H.**, and Guerrier, S. (2009) Morphological colour change in the American lobster (*Homarus americanus*) in response to background colour and UV light, *New Zealand Journal of Marine and Freshwater Research*, 43(1), 247-255.

SUBMITTED FOR
PUBLICATION

1. Johnson, E. E., **Suanda, S.H.**, Wing, S. R., Currie, K. I., Smith, R. O. Episodic Summer Chlorophyll-a Blooms Driven by Along-Front Winds at Aotearoa's Southeast Shelf Break Front. *Journal of Geophysical Research: Oceans*
2. **Suanda, S.H.**, Smith, R. O. Spring stratification and internal temperature oscillations on the Otago inner shelf. *New Zealand Journal of Marine and Freshwater Research*
3. Valcarcel, A., O'Callaghan, J., Stevens C., **Suanda, S.H.** Interacting wind- and tide-forced boundary-layers in a large strait. *Journal of Geophysical Research: Oceans*
4. Santana, R., Macdonald, H., O'Callaghan, J., Powell, B., Wakes, S., **Suanda, S.H.**. Data assimilation sensitivity experiments in the East Auckland Current system using 4D-Var. *Geoscientific Model Development*

DATASETS

1. **Suanda, S. H.**; Di Lorenzo, E.; Miller, A. J.; Haas, K.; Edwards, C. A.; Moore, A. M.; Kumar, N.; Xu, T.; Cai, D. (2022) Inner Shelf Dynamics Experiment ROMS Hindcast model simulations. doi.org/10.6075/J0930T97
2. **Suanda, S. H.**; DeSouza, J.; Smith, R. O. (2022) New Zealand coastal station sea temperature time series. doi.org/10.5281/zenodo.6399921

INVITED
PRESENTATIONS

1. Unresolved tidal effects in coastal circulation models. Duke Marine Laboratory. March, 2022.
2. Unresolved tidal effects in coastal circulation models. Center for Coastal Physical Oceanography, Old Dominion University. November, 2021.
3. The effects of barotropic and baroclinic tides on vertical and horizontal mixing in the coastal ocean. National Institute of Water and Atmospheric Research, Wellington, New Zealand. February, 2019.

4. Nested modeling of the coastal ocean. *Workshop presenter* International Workshop on Oceanography of the Indonesian Seas. Mulawarman University, Indonesia. November, 2017.
5. Modeling high frequency processes on the inner shelf of a coastal upwelling system. University of California, Santa Cruz, U. S. A. March, 2017.
6. Multiple scales of physical processes in the coastal ocean: Examples from the North American West Coast. Nanyang Technological University, Singapore. November, 2016.
7. Special Course on Coastal Oceanography. Institut Teknologi Bandung, Indonesia. November, 2016.
8. Modeling multi-scale interactions on the inner shelf. Gordon Research Seminar on Coastal Ocean Modeling, U. S. A. June, 2015.

SELECT
CONFERENCE
PRESENTATIONS

Oral Presentations

1. Suanda, S.H., Kumar, N, Spydell, M, Feddersen F. Barotropic and baroclinic tidal effects on coastal mixing and dispersion. Ocean Sciences, Portland, OR February, 2018
2. Suanda, S.H., Kumar, N, and others. Tidal effects in a realistic model of a thermally buoyant plume north of Pt. Conception. VIIIth International Symposium on Stratified Flows, San Diego, CA, August, 2016
3. Suanda, S.H., Kumar, N, and others. Modeling multi-scale interactions on the inner shelf. Ocean Sciences, New Orleans, LA, February, 2016
4. Suanda, S.H., Kumar, N, and others. Modeling multi-scale interactions on the inner shelf. Gordon Research Seminar on Coastal Ocean Modeling, 2015 (*invited*)
5. Suanda, S.H. Tidal-band and high-frequency internal waves on the Central Oregon inner shelf. Physical Oceanography Dissertation Symposium, Kauai, HI, October, 2014.
6. Suanda, S.H. and Barth, J.A. Understanding the timing and transports of high-frequency internal waves on the Oregon inner shelf. Ocean Sciences, Honolulu, HI, February, 2014.
7. Suanda, S.H. and Barth, J.A. Internal tides on the Oregon inner shelf. Eastern Pacific Oceans Conference, Stanford Sierra Camp, CA, September, 2013.
8. Suanda, S.H. and Barth, J.A. Contrasting regimes of internal wave activity on the Central Oregon inner shelf. Eastern Pacific Oceans Conference, Stanford Sierra Camp, CA, September, 2012.
9. Suanda, S.H. and Barth, J.A. Long-term observations of internal waves with shore-based video cameras. North Pacific Marine Science Organization (PICES), Hiroshima, Japan, October, 2012.

Poster Presentations

1. Suanda, S.H., Smith, R. O., Russell, P. Inner shelf circulation and retention downstream of Otago Peninsula, New Zealand. Ocean Sciences Meeting, 2020
2. Suanda, S.H., Kumar, N, and Feddersen, F. Barotropic and baroclinic tidal effects on coastal stratification. Gordon Research Conference on Coastal Ocean Dynamics, 2017

3. Suanda, S.H. and Feddersen F. Vortex interactions between mean longshore currents and transient rip currents. AGU Fall Meeting, San Francisco, CA, December, 2016.
4. Suanda, S.H., Kumar, N, and others. Got Tides?: Tidal effects in a realistic coastal ocean model. Eastern Pacific Oceans Conference, Timberline, OR, September, 2016
5. Suanda, S.H., Kumar, N, and others. Modeling multi-scale interactions on the inner shelf. Gordon Research Conference on Coastal Ocean Modeling, 2015
6. Suanda, S.H. and Feddersen F. A self-similar scaling for transient rip currents. AGU Fall Meeting, San Francisco, CA, December, 2014.
7. Suanda, S.H. and Feddersen F. The role of transient rip currents in driving exchange between the surfzone and inner shelf. Eastern Pacific Oceans Conference, Timberline, OR, September, 2014.
8. Barth J.A., Suanda, S.H., Dudas, S.E., and Menge, B.A. Using inner-shelf internal wave indices to determine the recruitment of intertidal invertebrates. Ocean Sciences, Honolulu, HI, February, 2014.
9. Suanda, S.H. and Barth J.A. Internal tides on the Oregon inner shelf. Gordon Research Conference on Coastal Circulation, New London, NH, June, 2013.
10. Suanda, S.H. and Barth J.A. Streaks and Slicks: Observing the surface manifestation of internal processes in the coastal ocean. Heceta Head Coastal Conference, Florence , OR, October, 2012.

TEACHING	Undergraduate and graduate teaching June 2018 - present <i>University of North Carolina Wilmington</i> PHY101 - Elementary College Physics PHY480/580 - Coastal and Estuarine Systems <i>University of Otago, New Zealand</i> OCEN321 - Ocean Physics and Modelling (<i>co-ordinator</i>) OCEN301 - Practical and Field Oceanography OCEN201 - Physical Oceanography OCEN450 - Data Analysis Methods in Oceanography Workshop project leader November 2017 International Workshop on Oceanography of the Indonesian Seas. Mulawarman University, Indonesia
RESEARCH SUPERVISION	Graduate research <i>University of North Carolina Wilmington</i> Tim Hesford Spring 2023 - present <i>University of Washington, Seattle, WA</i> Emma Nuss (<i>PhD</i> co-advisor Dr. Melissa Moulton) Nov 2020 - present David Fertitta (<i>MSc</i> , co-advisor Dr. Nirnimesh Kumar) Completed Aug 2019 <i>University of Otago, New Zealand</i> Tim Baxter (<i>MSc</i> co-advisor Dr. Robert Smith) Completed April 2021 Connor Davenport (<i>MSc</i> co-advisor Dr. Abby Smith) Completed Feb 2021 Arnaud Valcarcel (<i>PhD</i> co-advisor Dr. Craig Stevens) Feb 2019 - present Rafael Santana (<i>PhD</i> co-advisor Dr. Helen MacDonald) Completed June 2022 Erik Johnson (<i>PhD</i> co-advisor Dr. Robert Smith) Aug 2019 - present Phellipe Couto (<i>PhD</i> co-advisor Dr. Joao Souza) Dec 2019 - present Mireya Montano (<i>PhD</i> co-advisor Dr. Joao Souza) Feb 2020 - present

	Undergraduate research advisor	
	<i>University of North Carolina Wilmington</i>	
	Tim Hesford	Completed Dec 2022
	Cody Benton (SECOORA data challenge)	Completed Dec 2021
	<i>University of Otago, New Zealand</i>	
	Felix Cook (<i>Physics Honours</i> co-advisor Dr. Michael Jack)	Completed Nov 2019
	<i>Scripps Institution of Oceanography</i>	
	Scripps Undergraduate Research Fellowship	Summer 2014 - 2017
OUTREACH	University of Otago Science Expo	July 2018
	Hands on science demonstrator	
	Scripps Community Outreach Program	Summer 2014 - 2016
	Pier tours	
	Frankfurt Book Fair	Fall 2016
	Hands on science educator	
FIELD EXPERIMENTS	<ul style="list-style-type: none"> • ONR ROXSI MURI; Monterey, CA. July - August 2022 Shore-based mooring deployment and recovery. • Student research class cruise, RV <i>Cape Fear</i>; Wilmington, NC. Mar 2022 Estuarine CTD survey, mooring deployment and recovery. (<i>Chief Scientist</i>) • Otago internal waves, RV <i>Tuhura</i>; Otago, New Zealand. Nov 2018 Mooring construction, deployment, recovery. (<i>Chief Scientist</i>) • ONR inner-shelf DRI, RV <i>Sally Ride</i>; San Diego, CA. Sep 2017 Mooring deployments, continuous CTD and turbulence profiling, acoustic surveys. • ONR inner-shelf pilot, RV <i>Oceanus</i>; Port Hueneme, CA. September 2015 Mooring and lander recovery, shipboard CTD measurements. • CSIDE, RV <i>Sally Ann</i>; Imperial Beach, CA. September 2015 Shipboard CTD and ADCP measurements. Shore-based deployments of surfzone measurements. • PICES summer course field program, RV <i>Elakha</i>; Newport, OR. Summer 2013 Shipboard CTD and water sampling and ADCP and moored temperature/conductivity measurements. (<i>Chief Scientist</i>) • Coastal internal wave study, RV <i>Elakha</i>; Newport, OR. Summer 2010, 2011 Shipboard CTD and mooring operations. (<i>Chief Scientist</i>) • Dye tracking experiment, RV <i>Wecoma</i>; Newport, OR. April 2009 Mini-bat survey and ARGOS drifter deployments. • Wave energy baseline study, RV <i>Elakha</i>; Reedsport, OR. Fall 2009 	
PRIZES/HONORS	<ul style="list-style-type: none"> • National Science Foundation Postdoctoral Fellowship October 2015 • Heceta Head Coastal Conference Best Poster Award Fall 2012 • Burt Graduate Student Award for Physical Oceanography Fall 2009 • Matthews Memorial Fund Recipient Summer 2009 	
SERVICE	<ul style="list-style-type: none"> • Reviewer for <i>Continental Shelf Research</i>, <i>Journal of Physical Oceanography</i>, <i>Journal of Oceanography</i>, <i>Limnology and Oceanography</i>, <i>Ecology</i>, <i>New Zealand Journal of Marine and Freshwater Research</i>, and <i>Journal of Geophysical Research Oceans</i> • Session chair, Coastal connections: Material transport between Land, Estuaries and the Shelf <i>Ocean Sciences Meeting</i> Feb 2022 • Proposal reviewer for National Science Foundation Physical Oceanography 2015, 2017, & 2019 • Session chair, <i>Fluids in New Zealand</i> Feb 2019 • Session moderator, Nearshore Processes <i>AGU: Ocean Sciences</i> February 2018 • Session moderator, Nearshore Processes <i>AGU: Fall Meeting</i> December 2016 	

- Outstanding Student Presentation Judge *AGU: Ocean Sciences* February 2018
- Outstanding Student Presentation Judge *AGU: Fall Meeting* December 2016
- Session chair, *Eastern Pacific Oceans Conference* September 2016
- Meeting co-chair, *Eastern Pacific Oceans Conference* September 2014
- Meeting co-chair, *Gordon Research Seminar* June 2013
- Science judge, *National Ocean Science Bowl*, Oregon State University 2008 & 2010